Rurbanism/Urbanism/Meganism: Toward different disciplines for different scales of human settlements and settlement fringes

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Introduction

This paper analyzes the importance of the graphic tools we use for the megacities, cities and rurban area representation. These tools will determine the way decision making happens and, consequently, the validity and appropriateness of the strategies arising from those decisions.
Citizens, who have become new actors on the scene of planning, and the development of new digital and mobile technologies are a new resource of data representation and planning decisions.
Due to the global migration movements and the drastic and frequent economic changes, we will have to develop new tools to represent issues like shrinking and growing processes. Urban morphology changes are moving the boundaries between formal and informal fringes, and between different social strata. Opposite ways of creating a city and opposite economical expectations are separated again by a river, a street or a highway. Slums and formal cities are now in close contact with each other.
We have experienced the results of highly controlled and highly designed un-slumming projects in many of our western suburbs. During the 70s, 80s and 90s the degradation, sense of not belonging, family unsustainability, economical high dependence and the lack of spaces for a social reproduction were common issues all over the continent. We can use our modern devices, our digital proximity and interconnection to collect and interpret what is really happening in the informal city in order to protect its values instead of erasing them.

Methodology

Data about historical urban and territorial strategies are being studied through sources available at the University of Castilla-La Mancha (UCLM) and Universidad Politécnica de Madrid (UPM) in Spain. Official plans have been consulted through the Municipalities' official web sites and the archives in Madrid, Toledo and Los Navalmorales, analyzing strategies and tools representing three different scales of western human settlements. Data about urban farming, participatory planning and new technologies applied to urban planning have been obtained through the web. Research articles by American and German Scholars have been the base of the shrinking and growing processes studied. In addition, experiences on slumming and unslumming described by Jane Jacobs, Sumita Sinha and the Ahmenabad workshops are the base for the research on slums.

Meganism, Urbanism and Rurbanism; decision making and graphic information

Urban planners and architects are in charge of drawing the graphic support for the political decision making processes. What we don't draw, doesn't exist. If we give importance to a specific issue in our drawing, it will become a point of discussion.
A first classification of the urban fabric is always made by the amount of people living in them and by the amount of square meters it occupies in a frozen image. But the nature of these spaces, classified by paying particular attention to their capability of hosting a certain number of inhabitants, is very different. We shouldn't use the same tools to represent them, nor the same criteria to design them.
Planners used to draw as architects and naturalists did in the early 18th century (Choay, 1992) with a 'scientific' vision on how cities or buildings are made. Planners, providing graphic information not just to politicians, but to architects and engineers as well, used to draw as tax inspectors, structures' estimators or squared meter measurers. The perceptible reality that is full of sensorial, environmental and cultural information, which should be our main data for city models, isn't sufficiently represented. That information

is contained in many urban competitions and proposals from scholars, but it is significantly different from the official drawings of the urban plan.

We have reached the agreement that a topographic plan resembles reality more than oil on canvas even if, objectively speaking, the reality is the opposite (Ortega y Gasset, 1940).

Some proposals about how to draw a complete prospective of reality were already made in the late 60s (Mc Harg, 1967). Urban and rurban landscapes were treated as tridimensional sketches, connecting and relating natural and built environments. Tools like Google-Earth images might substitute sketches, but drawing allows us to establish a scale of values depending on how we draw each element, erase the information that is not relevant, highlight the details and emphasize the subject we want to work on.

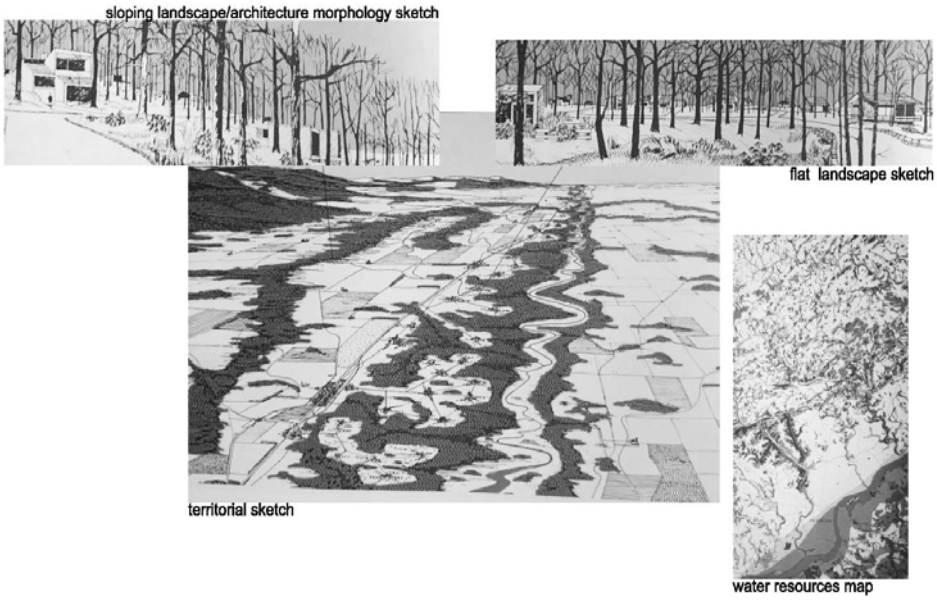

Figure 1 Rurban graphic support proposal; a territorial collage.
Source: Ian Mc Harg, 1967 *Proyectar con la Naturaleza*, GG Editorial

Proposals about how to treat the complex information contained in the Megacities' reality fill the architectural competitions, anticipating what should be a big change in the official style of representation. Also urban research centers and isolated young urbanists develop, with the help of new technologies, maps including citizen habits' information that translate many useful data into graphic tools.
Official drawings act as `dividers´ instead of `linkers´ between the several interactive layers of the urban fabric. Many of the internal dynamics are not described, nor the interaction with the surroundings and the nearby environment. Vital interconnections with other settlements aren´t represented unless we are drawing at the territory scale. Fringes get dissected, without keeping the memory of the interconnections.

When we draw a city at a certain spatial scale, we are forgetting the fact that, in real life, what´s important for citizens is not the distance, but the time it takes to reach one place from another. Walkability and cyclability could be really pursued if we had a continuous reference to its scarcity in our plans.

Urban Settlements: a work in process

Megacities, urban and rurban areas are the sum of fringes that undergo separate processes due to economic and social dynamics. In general, settlements that are growing along the edges are suffering a shrinking process in the inner fringe. One of the most effective strategies will be to study separately those different fringes, and to work on achieving a final balance with coordinated proposals between all the parts (Müller and Siedentop, 2004).

As urban planners, we are forecasting the future. Our task includes not only trying to resolve what is already happening, but also what we think is about to happen.
In a growing fringe, we will be forecasting a process of densification and enlargement, and we will have to decide how and where to grow and how to adapt the existing city to a new density and extension. Expansion should have its own tools of representation. Critical points such as carbon emissions, energy and water supply are needed in all the city representations, not just in the water and energy management plans.
Rain water harvest, urban farming, water drainage and clean energy production spaces should have as much relevance as building plots in our designs.
The choice between identity preservation, identity evolution or identity creation will be one of the most determinant points of discussion that should never be given up by planners (King, 2004). Hybrid cultural events will re-invent the core of the main megacities, as global migrations are creating 'world microcosms' in their streets and neighborhoods. (Wood and Landry, 2008)

Identity isn't just based on heritage, but on social interconnections and the habits of citizens that, sufficiently represented, will encourage the mixture of spaces dedicated to residential and business activities. It will also influence the entrepreneurial dynamics, which are at the core of the strategies to avoid future drastic shrinking processes and degradation. Internal economic resources diminish degradation and reduce displacement and carbon emissions.

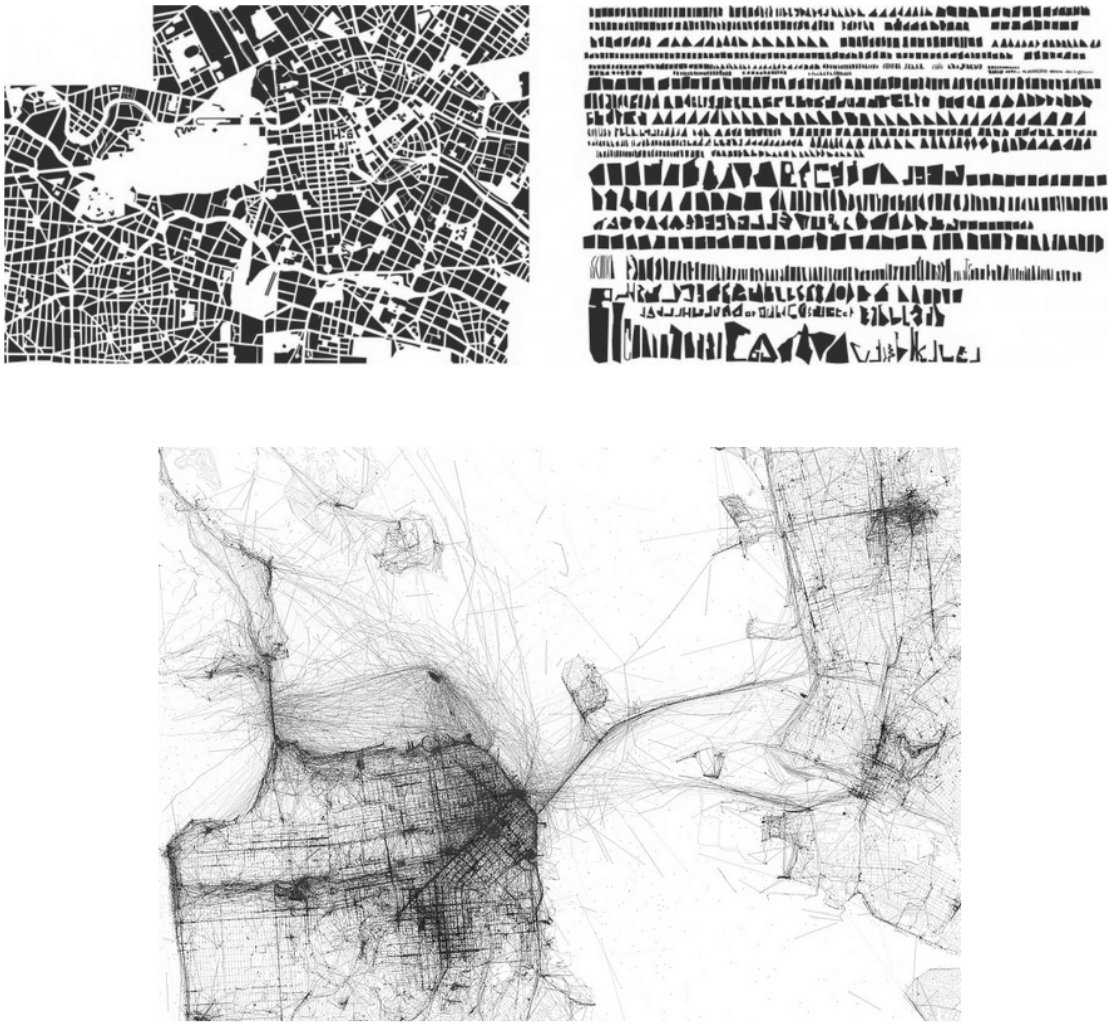

Figure 2 City ` biodiversity´; Berlin plots analysis / Mapping walkability and cultural value through API, Twitter and Flickr data
Source: Armelle Caron, Édition Lendroit , www.armellecaron.fr / Eric Fischer

In a shrinking fringe, we will be forecasting an emptying process, and we will have to pay attention to how and where it is actually shrinking. A plan of empty buildings and plots becomes the main requirement if we want to represent the contraction, and to adapt the existing fabric to a lower density (Kabish and Haase, 2005).

Special attention should also be paid to decide what to do with the actual extension and how to manage the changing city's outer edges. Safety and the guarantee of the sustainability of public services becomes one of the main issues (Ryan, 2012). Degrees of safety should have a permanent graphic echo.

As flexibility will become one of the main issues, the plots' 'biodiversity' has to be analyzed and represented. This will be helpful in understanding if the urban fabric is ready to end with the previous zoning structures, or if it is too homogeneous and rigid and needs further adjustment.

Encouraging the entrepreneurial network to reverse the economic structure from external to internal will extend the fringe life (Herr and Karl, 1989). The study of the 'biodiversity' of the polots becomes crucial, as it may permit an easy change from residential to a very different use and vice versa.

In shrinking cities, a more livable and affordable fringe is about to be born, we will have to represent its improvement potentials in order to retain its new virtues. Urban voids have infinite options. Their different boundary conditions will determine their finite possibilities.

A settlement in stagnation, instead, usually has a moderate number of inhabitants. Megacities are never stagnant for a long time (Jacobs, 1968). Their powerful inertia makes them shrink or grow alternatively as a whole. So stagnation tools will work mostly for towns and rural areas. Designing for stagnation, if it lasts in time, means having the chance to create an inventory of landscapes' perspectives, to study built environment and ethnographic identity and to embrace self-building initiatives in a positive way.

The source of growth

In growing settlements, the source of growth can be internal or external. Internal source is usually at the core of megacities, villages and slums (Jacobs, 1961). External source fuels towns and some cities.
Internal source of growth positively influences economic sustainability, family sustainability, traffic dynamics and walkability. Commutes are reduced. The choice of proximity between home, work or school, for example, is possible and services are usually available close by.
Settlements with an external source of growth become dependent and with very little room for maneuvering in economic decisions. They usually lose much of their historical value, as their growth is not the result of their own decisions, but something imposed by a higher order settlement, and at a high speed. They are rapidly enlarged when the economic situation is positive, and the first places to shrink when it becomes negative, as they are considered part of the periphery (Müller and Siedentop, 2004).
Massive commutes are the physical materialization of the dependence on other settlements or fringe economies, and they are usually done by car.

Compact or Scattered Nature

One of the characteristics that has historically defined the nature of human settlements has been the degree of compactness. It used to allow us to understand the characteristics of the territory that surrounded it: the topography, the climate and the culture (Morris, 1979).
With the beginning of Imperialism and the standardization of colonial architecture and urbanism, European models were spreading into the Asian, African and American territories. New mixtures between compact and scattered city morphologies emerged, based on architectural changes.
Modern cities, instead, are a mixture of different types of nature: they are compact in the core with extremely high densities, and scattered in the residential areas. Latest studies affirm that compactness and resilience are related. Compact cities are more adaptable to decline processes (Richardson and Woon, 2012). In a cyclical

global economy, compact cities should substitute sprawl cities in order to respond to future economic decline processes. But social dynamics are changing, new potential dwelling owners are leaning towards renting, as the global labor market forces them to move from one continent to another very often (Müller and Siedentop, 2004). The bicycle is becoming their favorite means of transportation replacing the car. They demand more walkable cities and new architectural solutions since co-working spaces and freelancing labor habits substitute conventional ones. New tools have to be created to face these changes from a half compact-half scattered city to a moderately dense city.

Historical urban strategies

The main concern for urban planners from the Middle Ages until the end of the 19th century was the binomial light/fresh air. Cities were extremely dense, and urban acupuncture was practiced with partial demolitions. The existing fabric was partially reinvented, improving the living conditions of their inhabitants. This constitutes a semi-natural un-slumming practice that may be very useful for today´s informal fringes. Only in some specific cases, a previous massive fire for example, an entirely new city or city fringe was created (Rasmussen,1934). Since the middle ages, villages and towns existed for planners just as an object of socioeconomic change. In England, the purpose for the territory transformation in the late middle ages was to reduce the community properties and the farmers rights (Sevilla, 2012). In Europe, the Church was including clear religious landmarks in the center of the rurban and urban clothes to assure a common identity (Hobson, 2004). Broadly, cities under threat were being planned from a defensive point of view.

Providing fresh water to the rural population was one of the main concerns in the 18th century, as it was for Romans.

A relatively static system of borders in many European countries, made the demolition of many city walls possible, and the transformation of those voids into gardens. The main objective was to connect the historical city with the new city enlargements (Zarza, 2001). The Industrial Revolution, resulted in less livable cities, the increase of slums in the city outskirts, and the pursuit of the benefits of contact with nature. Gardens and nature were artificially and democratically included in the new city designs.
The 20th Century became the century of the binomial public space/ private transportation. The debate about where to place the flow of vehicles and the parking areas became a priority. Vehicles were the main source of satisfaction for drivers, but the main source of dissatisfaction for pedestrians. Finding the right balance on how to divide public spaces between one and the other was crucial at that time, and a wide variety of solutions was given in the most collapsed and symbolic city, New York (Koolhass R.).

From the 60s, with the extreme increase in the amount of vehicles invading our public spaces, traffic saturation became the main concern.

From the end of the WWII, the migration movements and the rural exodus were critical in the developed countries. Cities had to accommodate huge amounts of new citizens with scarce resources and in record time. Cities' `emergency architecture´, made of massive and moderately distant blocks, was simultaneous to the villages' shrinking process. In the USA cities were becoming urban sprawls.

European cities were suffering a new circumstance; architectural identity was fading. Responsibility of maintaining the historical identity rested on monuments, while residential areas were becoming standard city fringes. The Heritage conservation movement strategies, which started with the French Revolution (Choay, 1992), became a non-questionable practice when the renovation of historic centers was addressed.
At the end of the 20th century, the massive concentration of world population in cities and enlargements resulted in cities that had to deal with a number of citizens that exceeded the total number of inhabitants of many countries. Green lungs and megalithic cultural structures were some of the main concerns. Green lungs became a strategy to fight traffic pollution.
At the beginning of the 21st century, with the rise of the architects´ collectives, the urban participatory dynamics and the financial crisis, special attention is being given to the degraded and empty spaces of the

city. Citizens, passive actors in the scene of urbanism from the end of the middle ages, have become active subjects of the transformation of the city. In the decade of austerity, after the 2008 world's financial crisis that has lowered the purchasing power of cities, food security strategies and small-scale participatory cultural proposals are replacing the expensive mega-projects of previous decades in western countries.

Nowadays, the increase in the use of alternative means of transportation, like bicycles, and the pursuit of family sustainability is resulting in the transformation of the labor market. The freelancing model and the choice of shorter commutes between home and the office are increasing. The digital fabrication, which is about to change the production processes on a global scale, will avoid the great displacement of commuters and the transport of raw materials and manufactured products. The real estate disruptiveness is already changing the private investing priorities that have modelled the city outskirts and has helped the inner cities emptying processes for decades.

These priority changes occur simultaneously to the mega-projects that are in process in developing countries. These strategies are changing the morphology of the cities, and are accompanied by the growth of massive informal fringes.

Morphology of developed cities is under discussion, and strategies to reach compactness will be decisive to the city sustainability (Richardson and Woon, 2012). Strategies will have to be preceded by a deep study of the new cultural and flow dynamics between human settlements on a global scale.

New dynamics 01. From urban planning to citizen involvement

Urban planners and politicians no longer act as the only subjects making decisions to improve the public space of a passive society. A third urban agent has burst onto the scene: the citizen/villager.
Urban planners were dealing with a predominantly illiterate society until the ´50s in many western countries. But with the spread of education, higher degree studies, international travelling and new data technologies, new perspectives and demands are being born amongst citizens. A similar process is already happening in the developing countries. Citizens demand their right to choose, to manage and to design their own public spaces. Together with the rise of architectural young collectives, strongly linked to the existent social networks and provided with new technologies, many spontaneous citizen actions are changing the rules of conventional planning (Peerapun, 2011). Strategies like architecture `guerrilla´, self-managed urban void initiatives, urban acupuncture interventions, collective resources management, self-built mobile devices, urban skeleton reuse, participatory urban activities (Peris and Turnes, 2015) and collective urban farming are spreading out all over the developed cities. They are transforming the social relations and the sense of belonging to the built environment.
They are also being helpful in the un-slumming processes of informal cities, resulting in more creative and positive solutions than those given by local governments decades ago. Slumming and un-slumming processes are especially representative in the case of vertical slums in countries like Venezuela or Brazil. (Baan, 2013).

New dynamics 2. From urban to rural citizens in developed countries

In the first decade of the 21st century many young couples, in countries that were particularly hit by the 2008 financial crisis like Spain, initiated an urban exodus and are moving into rural areas. They were escaping from a saturated environment and from low job expectations.

They arrived to the villages looking for a place to start up their modern businesses; organic farming, art workshops, rural accommodations or freelancing design jobs. Their different conception of life, due to their education and previous urban experience, became a strong force that is starting to change the behavioral patterns, the architecture, the social relationships and the economics of some rural areas. Medieval settlements are meeting the digital era in a few years. Somehow, the hatching of these rural fabrics is going to put their nature in common with the nature of megacities, where flexibility is a necessity and a difficulty at the same time.

New dynamics 3. From villagers to citizens in developing countries

The concept of responsive cities is being mentioned in many recent urbanism texts. But the towns surrounding a megacity, and being absorbed by it, will have to put into practice a responsive attitude in the first place. The megacity's nature doesn´t change during the growth, but the nature of all the settlements being transformed by it does.

The process of transformation from town or village into a megacity periphery starts with the improvement of the transportation infrastructures, that reduces the time to move from the village to the megacity. Later on, rustic plot conditions become more flexible and waves of contractors, family investors and real-estate agents arrive to the former village. Its rural fabric is about to experiment an incredible growth in just a few years. The village hasn´t really generated any economic improvement to justify this massive arrival of population. Its representativeness, together with representativeness of its old inhabitants, will very likely vanish. And with them, so will do the historical and landscape values.

A more gradual arrival of new inhabitants may result in a more democratic representativeness of the assembly, including the third actor: the natural environment. A gradual arrival has to do with the inner improvement and with the sustainability of the new citizens originative settlements.

New dynamics 4. Urban farming movement and new urban voids morphology

With the beginning of the financial crisis, and doubts about the food security, farming activities started spreading in the inner suburbs and the outskirts of the cities (Sinha, 2012).
Whether in vacant plots or in community gardens, urban agriculture is seen as a strategy for business development, sustainable planning and democratic reinforcement. At the same time, a renovated attachment to the public space is emerging. Public spaces devoted to urban farming become less likely to be vandalized, and generate civil engagement and concern for other citizens.
One of the main difficulties urban agriculture has to face, in policy terms, is the barrier of zoning.
This difficulty has generated networked movements involving citizens belonging to the same fringe, creating new youth development opportunities (Golden, 2013). As public space is the materialization of the social dynamics, big changes are approaching and society becomes a deeply interrelated network. Youth development opportunities have to address a materialized reality that may transform the morphology of entire neighborhoods.

Natural un-slumming potentials

When human settlements are growing at a high speed, the existent fabric and the local government resources are not capable to properly adapt to the increase of population and the consequent enlargement of the city. A change in the scale needs some time to adjust.
Scarcity of quality plots and economic resources of the new citizens, together with the impossibility of providing public services at the right time, generates slums. Slums used to be far away from the richest areas of the cities, as spatial distance has always represented social distances (Bordieu, 1997). In the present, due to the enormous amount of villagers filling the developing cities edges, those distances do not exist anymore, contributing to a higher spatial tension but also to a greater potential of future social cohesion.

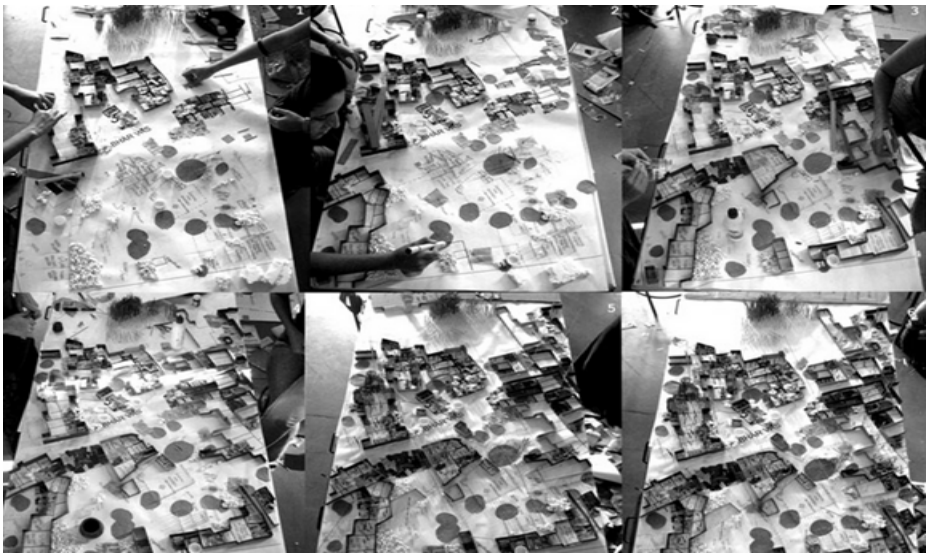

Figure 3 participatory slum mapping process by Marta Juliana Abril; built reality and social dynamics.
Source: www.arenasbasabepalacios.com Rampir no Tecra Slum Transformation Scenarios, Ahmenabad workshop 2010

A slum is in a constant process of amelioration. The starting situation is the worst possible and the energy of the population is increasing, as waves of young people keep arriving. It is also the paradigm of sustainable businesses, as they are born directly on demand or adding new work to the existent. (Jacobs, 1961)(Temin 2013). Natural un-slumming creates better urban dynamics than artificial un-slumming. Its development potential will have to do with the size and shape of its plots, its topography (Montejano, 2014), and with the capability of planners and architects to engage in hands-on design and to make environmental and social responsible changes. Close negotiations with low income clients will be on demand (Oppenheimer & Hursley 2002).

A clear example of a European failure is the *`Poblados de Absorción´* in cities like Madrid or Barcelona, created in the 50s and 60s. Local governments were demolishing slums to create new urban fabrics. They were erasing not just dwellings, but social spaces and and emerging economy, forgetting the fact that tools to connect urban parts are not objects, but events (Hara, 2004). They were creating new city strips from zero and zoning the city. Dormitory neighborhoods were pretending to substitute self-sufficient fringes, where all the economy sectors where physically represented. They also had a complex social network that had determined a precise morphology.

Conclusions

Megacities, urban and rurban areas are usually studied, dissected and drawn using the same tools and perspective. At the same time, the only accepted differences and similarities between them are related to their size, as if that were the only factor that makes them different.
Studying a human settlement requires a deep study of its scale, the growing or shrinking process that is taking place, its `biodiversity´ potential, its social dynamics and the origins of its economic resources.
In some cases, the strategies applied to a megacity and a rurban area may be very similar, as their underlying processes might also be similar. The difference lies in the way we represent the settlement. A megacity should be represented in a more abstract way, and with the joining of many different layers, due to its complexity and its distance from natural reality. The representation of a village or town should be much closer to a tridimensional territorial reality, as the surroundings and the natural environment are a very important part of its processes and morphology.
Continuous presence of sustainable water management and energy self-sufficiency at the graphic level will be necessary if we want a growth process to last for a long time.
Social dynamics are demanding more room in our drawings, and new technologies can make their inclusion easier.

The graphic expression of the ‘informality’ is crucial in order to avoid the degradation experimented in the suburbs of cities in developed countries at the end of the last century. Un-slumming processes in megacities in developing countries should be practiced in a much more natural way, accepting that informality creates social engagement, a sustainable economy, walkability, family sustainability, and the compactness we now pursue in developed countries.

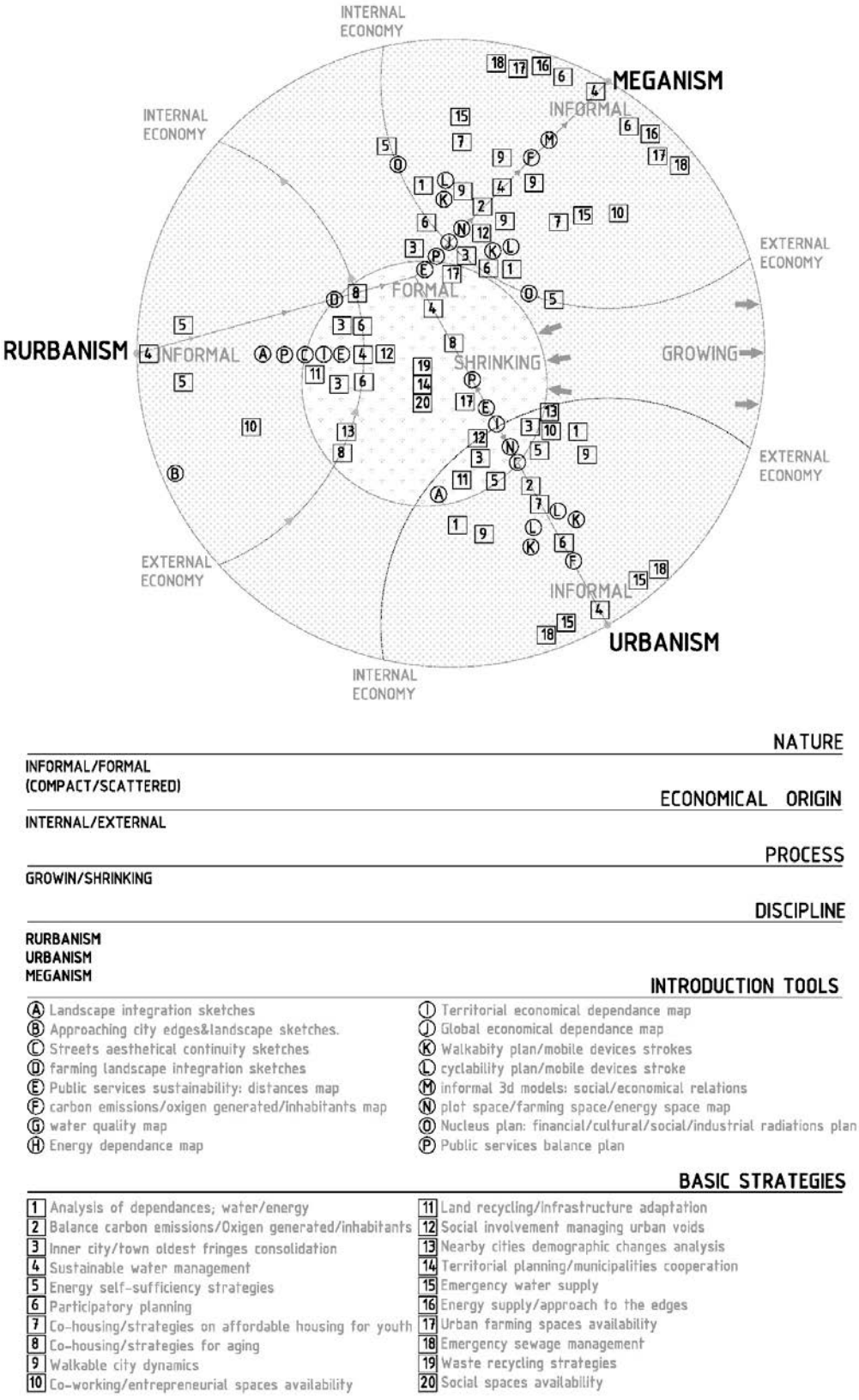

Figure 4 A first approach to the distinction of Rurbanism, Urbanism and Meganism: basic tools and strategies
Source: the author

References

Choay, F (1992) *Alegoría del Patrimonio*, GG Barcelona 2008 63-64
Golden,S (2013). *Urban Agriculture Impacts: Social , Health and Economics. A Literature Review.* Sustainable Agriculture Research and Education Program. University of California.
Hara, Hiroshi (2004) *Discrete City-an Essay on Connectability and Separability*. VolI . Toto. Tokyo
Herr, H and Karl, G (1989) *Estimating the millennium development*. Goal 7,Target 11
Hobson, J.M.(2004) Los orígenes orientales de la civilización de occidente. Ed. Crítica, Barcelona 2006
Jacobs, J (1969). *The economy of cities*. Vintage Books. New York. 96-97, 261
Jacobs, J (1961) *The dead and life of great american cities*. Vintage books. New York 30, 288-290
Koolhass R (1978) *Delirious Manhattan*. The Monacelli Press, Italy 1994 122-126
Oppenheimer and Hursley (2002) *Rural Studio; Samuel Mockbee and an architecture of Decency*. Princeton Architectural Press. New York.
Ortega y Gasset, (1940) *Ideas y creencias*, Alianza Editorial, Madrid 2005
Mc Harg, I.L. (1967) *Proyectar con la naturaleza* Ed. GG, Barcelona 2000
Montejano Castillo, M (2014) *The memory of informality; the typological cycles in the selfbuilt*, Urban Morphology journal ISUF 2014 63-73
Morris,A.E.J (1979) Historia de la forma urbana, desde sus orígenes hasta la Revolución Industrial. GG Barcelona 2001 160-170 ,406, 306
Müller, B. and Siedentop, S. (2004) *Growth and Shrinkage in Germany;* Trends, perspectives and challenges for spatial planning and development. Deutsches Institut für Urbanistik http://www.difu.de/publikationen
Peerapun, W (2011) *Participatory planning approach to urban conservationa and regeneration in Amphawa Community*. Thailand. Faculty of Architecture, Chulalongkorn University
Phil Wood and Charles Landry (2008) *The intercultural city; planning for diversity advantage*. Earthscan. London
Pierre Bordieu (1997) *Capital cultural, escuela y espacio social* Siglo XXI editores. Iztapalapa. Pag 24-37 y Pag 87-94
Rasmussen,S.E. (1934) *London, the unique city*. The MIT Press, Massachusetts
Richardson and Woon, (2012) *Shrinking cities; a global perspective*. Routledge, UK
Ryan, B.D (2012) *Design after decline: How America rebuilds shrinking cities.* University of Pennsylvania press, Philadelphia
Sevilla Buitrago, A. (2012). *Urbanismo y reproducción social; una introducción a su historia*. Cuadernos de investigación urbanística n.80, Madrid
Sigrun Kabisch, Annegret Haase and Dagmar Haase (2004) *Beyond growth-urban development in shrinking cities as a challenge for modelling approache*s. Dept. of Computational Landscape Ecology, Leipzig.
Sinha, S (2011) *Architecture for rapid change and scarce resources*.Routledge. London. 138-144
Temin, P (2013)*The roman market economy history* Princeton University Press. New Jersey
Zarza Balluguera, Daniel (2001) *Desbordes urbanos*. Revista Circo. Ed. Mansilla/Rojo/Tuñón. Madrid
Peris,Turnes, Galán, Calle, Garbizu, Hidalgo, Martí (2015) www.todopolapraxis.com
Accesed on March 2015
Iwaan Baan, (2013) *Ingenious homes in unexpected places*. TEDtalks
http://www.ted.com/talks/iwan_baan_ingenious_homes_in_unexpected_places?language=es
Accesed on May 2015